

CS 5045 – Computation for the Life Sciences

Fall 2003

Homework 05

September 24, 2003

Problem 1. Write a subroutine `total` which returns the total sum of a list of numbers.

Problem 2. Write a subroutine `maximum` which can accept any number of arguments (numerical values) and returns the maximum value.

Problem 3. Write a subroutine `percentageA` which

- Takes a variable as argument. The variable contains a string with the name of a file;
- Checks if the file exists, and if it has nonzero size (see Appendix b in the text);
- If the file does not exist prints a warning and returns the value 0;
- If the file exists reads in the DNA sequence contained in the file (possibly written over multiple lines);
- Computes the total number of A nucleotides in the sequence;
- Returns the total percentage of A nucleotide, i.e. the number of A's divided by the total number of nucleotides and multiplied by 100.